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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,244	12/07/2004	Hiroyuki Morioka	112857-402	3110

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EXAMINER

COOKE, COLLEEN P

ART UNIT PAPER NUMBER

1754

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/517,244	Applicant(s) MORIOKA ET AL.	
	Examiner Colleen P. Cooke	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 18 April 2006.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 27-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 27-32 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a) ☒ All b) ☐ Some * c) ☐ None of:

 1. ☐ Certified copies of the priority documents have been received.

 2. ☐ Certified copies of the priority documents have been received in Application No. _____.

 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 27 requires a dopant which “includes at least one species selected from the group consisting of transition metal belonging to groups III to V of the periodic table **and** chromium, iron, nickel, **and** alkali metals, **and** compounds thereof” [emphasis added]. This is improper Markush group language and is indefinite in this instance because of the multiple use of “and”. See MPEP§ 2173.05(h). Correction is required. In addition to the improper Markush group language, the claim is further indefinite as it is unclear what is required by this particular limitation. Are both a transition metal AND chromium, nickel, and alkali metal required? Would nickel alone meet the claim limitation? Claims 28-32 contain the same language (or substantially the same language) as claim 27 and are likewise indefinite for the same reasons.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Pecharsky et al. (6773692).

Pecharsky et al. disclose the instantly claimed hydrogen occluding material and the method of using the hydrogen occluding material. Pecharsky et al. teaches a solid hydride of formula AlH_3 (Column 4, lines 11-28, line 24 in particular) and that the hydride releases hydrogen at temperature in the range from $-200^{\circ}C$ to about $100^{\circ}C$ (Column 4, line 65 through Column 5, line 5). Pecharsky et al. also teaches the use of a catalyst in combination with the hydride, the catalyst selected from metals belonging to periods III to V of the periodic table (Column 4, lines 42-52), that the catalyst and hydride are powders (Column 5, line 6), and also that the catalyst is present in an amount of about 0.1-25 mol%, about 1-15 mol%, or even about 1.5-10 mol% (Column 4, lines 53-64). Pecharsky et al. even specifically teaches in examples the use of lithium in addition to Ti (Example 1-2 and 4) and Fe (Example 3) as the catalyst dopant. No difference is seen between the instantly claimed invention and Pecharsky et al.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-32 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pecharsky et al. (6773692).

Pecharsky et al. disclose the instantly claimed hydrogen occluding material and the method of using the hydrogen occluding material as described with respect to claims 27 and 28 above.

If the teachings of Pecharsky et al. as described above do not anticipate the instantly claimed limitations, they would be obvious because Pecharsky et al. specifically teaches that the catalyst to be included in the material is a transition metal, and specifically comprises “a transition metal of the 3rd (Sc through Zn), the 4th (Y through Cd), or the 5th (Hf through Hg) period of the periodic table, or lanthanide elements (La through Lu), or their derivatives, or mixtures thereof” and that titanium is preferred in Column 4, lines 42-52. This teaching includes not only groups III-V of the periodic table but also includes Cr, Fe, and Ni; thus Pecharsky et al. teaches that mixtures of this may be used. Furthermore, Examples 1-2 and 4 teach an aluminum hydride that contains both lithium (an alkali metal) and titanium (a transition metal of groups III-V).

Response to Arguments

Applicant's arguments filed 3/17/06 have been fully considered but they are not persuasive.

The applicant argues that Pecharsky et al. teaches using dopants from the 3rd through 5th periods of the periodic table and therefore does not teach at least one dopant selected from transition metals belonging to groups III to V of the periodic table. While it may be true that Pecharsky et al. teaches dopants from periods 3-5 of the periodic table (specifically names Sc through Zn, Y through Cd, Hf through Hg, and preferably Ti), these teachings still meet the limitation as claimed. This broad teaching in Pecharsky et al. meets both the claimed transition metal dopants in groups III to V and also the claimed chromium, iron, and nickel. Furthermore, Pecharsky et al. teaches specific examples including lithium and titanium, which meet the claim limitations since lithium is an alkali metal and titanium is a transition metal belonging to groups III to V of the periodic table.

The applicant further argues that the “materials exemplified in Pecharsky et al. are limited to a much lower hydrogen capacity”. This is not persuasive for at least two reasons. First, the materials of Pecharsky et al. appear to be the same as those which are claimed and therefore would inherently exhibit the same hydrogen capacity. Second, and perhaps more convincing, is that the hydrogen capacity is not claimed. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., hydrogen capacity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen P. Cooke whose telephone number is 571-272-1170. She can normally be reached Mon.-Fri. 9:00 am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Stan Silverman can be reached at 571-272-1358. The official fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Colleen P Cooke
Primary Examiner
Art Unit 1754